

STUDIES IN THE BULBOUS LILIACEAE IN SOUTH AFRICA: 2. *DRIMIOPSIS* AND *RESNOVA*.

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ABSTRACT

The affinities of *Drimiopsis* and *Resnova* are discussed. Reasons for placing *Resnova* in synonymy under *Drimiopsis* are given and the five species of *Drimiopsis* recognised are dealt with taxonomically. A key to the species is constructed and certain modifications to the generic key to the bulbous Liliaceae in Phillips' "The Genera of South African Flowering Plants" proposed. An investigation of the meiotic chromosomes of two specimens of *D. maculata* is reported.

UITTREKSEL

STUDIES VAN DIE BOLDRAENDE LILIACEAE IN SUID AFRIKA: 2. *DRIMIOPSIS* EN *RESNOVA*.

Die verwantskappe tussen *Drimiopsis* en *Resnova* word bespreek. Redes vir die plasing van *Resnova* as 'n sinoniem onder *Drimiopsis* word aangegee en die vyf erkende soorte *Drimiopsis* word taksonomies behandel. 'n Sleutel tot die soorte word saamgestel en sekere veranderinge word voorgestel vir die generiese sleutel tot die boldraende Liliaceae in Phillips „The Genera of South African Flowering Plants“. 'n Ondersoek na die meiotiese chromosome van twee monsters van *D. maculata* word oor verslag gedoen.

INTRODUCTION

The genus *Drimiopsis* was described in 1851/2 by Lindley, with a single species—*D. maculata*. J. G. Baker described a further seven species from South Africa between 1870 and 1897. In addition he described *Scilla humifusa* and *S. lachenalioides*, which are considered by the present author to belong to this genus. A further three species have been described from South Africa this century and four species from South West Africa. The South West African species are considered by the present author to belong to the genus *Ledebouria*.

In 1946 Van der Merwe described a new genus, *Resnova*, from South Africa. Two species, described by Baker under *Scilla*, and four new species were recognised. No further species have been described in *Resnova* and Phillips (1951) treated *Resnova* as a synonym for *Scilla*.

As pointed out by Van der Merwe (1946), Baker did apparently place very closely related species under different subgenera of *Scilla*—*S. lachenalioides* under *Eusilla* and *S. humifusa* under *Ledebouria*. What has not been discussed is the relationship between *Scilla* (sensu lato) and *Drimiopsis*. The relationships between these two groups is discussed in this paper. A re-evaluation of the

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subgenera of *Scilla*, as represented in South Africa, has been discussed by Jessop (1970), and with the reorganisation of the *Drimiopsis-Resnova* group, it has been decided also to publish a key indicating features for separating the genera recognised in these papers and certain other allied genera. A taxonomic treatment of the species in the *Drimiopsis-Resnova* group is also provided.

GENERIC CONCEPTS

Baker (1896/7) described *Drimiopsis* as having "Perianth-segments cucullate, connivent", and *Scilla* as having "Perianth-segments spreading, 1-nerved". Phillips (1951) also employed the cucullate apices to the perianth segments in his key.

In describing *Resnova*, Van der Merwe (1946) distinguished his new genus from the subgenus *Euscilla* by its having ascending perianth segments, which are never blue or blue-purple. From the subgenus *Ledebouria* he separated it by its not having spreading perianth segments, in the sessile ovary and in the colour (undefined) of the perianth.

From these published comments, it would seem that the perianth affords the principal diagnostic characters of the groups—spreading in *Scilla* (both subgenera), ascending in *Resnova* and cucullate and connivent in *Drimiopsis*.

On morphological characters, *Drimiopsis*, *Resnova* and *Ledebouria* appear to be very closely related. The bulbs of *Resnova* and *Drimiopsis* are made up entirely of rather loose fleshy scales, while those of *Ledebouria* tend to be more closely packed and the outermost are usually dry and papery. However, in *L. cooperi* bulbs very similar to those of the other two genera are frequent. The leaves of all three are similar in texture, and are frequently spotted or in other ways marked. Petioles occur more frequently in *Drimiopsis* and *Resnova* than in *Ledebouria*. The inflorescence is similar. The ovary of *Ledebouria* is of a very characteristic form—being generally markedly conical and stipitate, with two basal ovules in each locule. The ovaries of both *Drimiopsis* and *Resnova* are oblong and sessile but also have two basal ovules per locule. The perianth characters are not considered to be as significant as previous authors have suggested. Many specimens of *Ledebouria* have minutely cucullate perianth segments. The colour of the perianth segments is extremely variable in *Ledebouria*, *Drimiopsis* and *Resnova*.

The differences between *Drimiopsis* and *Resnova*, and *Scilla* (sensu Jessop, 1970) are more clearly defined. *Scilla* always has some dry bulb scales, has firmer, unspotted leaves, and a more rigid peduncle. The filaments are always distinctly fused towards the base, and there is frequently more than two ovules in each locule of the ovary.

It is, therefore, considered that further information is desirable in discussing affinities between *Drimiopsis*, *Resnova* and *Ledebouria*. Fresh material of *Resnova*

has not been available for this study, but a certain, limited, amount of work has been possible on *Drimiopsis*.

As in distinguishing *Scilla* from *Ledebouria* (Jessop, 1970), it has been considered desirable to investigate the bulb apex.

Only one species of *Drimiopsis* has been available for this investigation. In *D. maculata*, a longitudinal section shows the deviation of the vascular tissue to the inflorescence from the apparently main axis terminating in the vegetative apical bud. Figure 1 illustrates the vascular pattern occurring in *Scilla*, *Ledebouria* and *Drimiopsis*, confirming the closer affinity of *Drimiopsis* with *Ledebouria* than with *Scilla*.

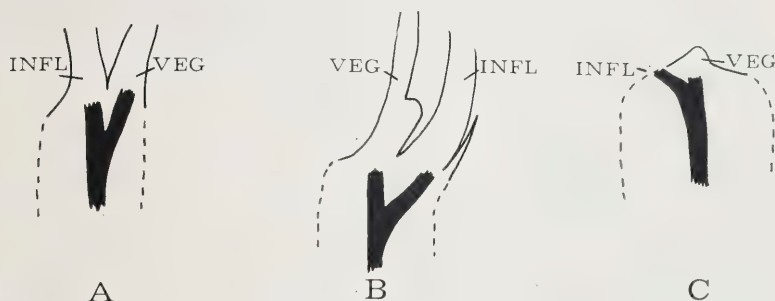


FIG. 1.

Diagrams of longitudinal sections through the bulb apices of *Scilla*, *Ledebouria* and *Drimiopsis*.

A. *Scilla nervosa*. B. *Ledebouria revoluta*. C. *Drimiopsis maculata*.

INFL—inflorescence axis. VEG—vegetative axis.

Broken lines indicate region of bulb where scales and portions of the bulb axis have been cut away. (Not drawn to scale.)

Leaf anatomy of *D. maculata* is very similar to that of *Ledebouria*. There is no lignified sheath around the vascular bundles. It does differ in not having a palisade layer, but this is not considered significant as this layer is extremely poorly developed in *Ledebouria* (fig. 2).

CYTOLOGY

Four papers, dealing with *Drimiopsis* chromosomes, have been published. Sato (1942) recorded $2n = 64$ for *D. maculata*, while Fernandes and Neves (1962) reported $2n = 60$ for the same species. Diploid numbers of 20 have been recorded for *D. burkei* (sub *D. crenata*) and *D. maxima* (sub *D. saundersiae*) by De Wet (1957). Matsuura and Suto (1935) found $2n = 80$ in *D. botryoides*, which is a species from tropical Africa.

Only two specimens of *D. maculata* have been examined by the present author. In both, laggards and micronuclei were observed (fig. 3). For *Streya* 9031

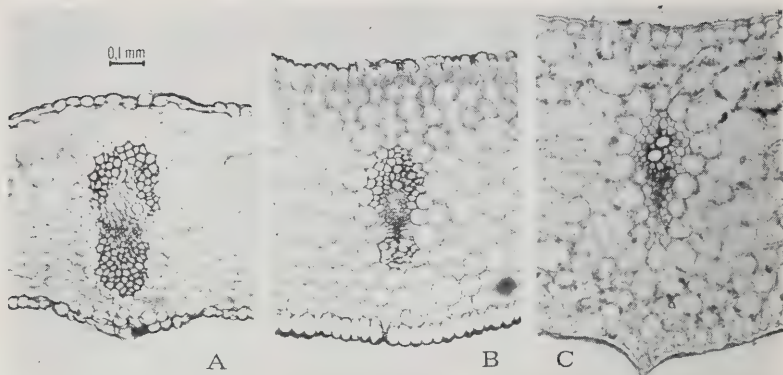


FIG. 2.

Transverse sections of leaves of *Scilla*, *Ledebouria* and *Drimiopsis*.
A. *Scilla natalensis*. B. *Ledebouria undulata*. C. *Drimiopsis maculata*.

(Manteka, Lusikisiki) a haploid number of 15 was obtained. The average length for the longest chromosome in each of five cells was $7.8 \mu\text{m}$ and the average for the shortest in each of these cells was $2.5 \mu\text{m}$. The standard deviations are 0.91 and 0.38 respectively. For *Jacot Guillarmod s.n.* (Port St Johns) it was not possible to determine a number, probably because irregularities in meiotic divisions produced varying numbers, but a haploid number of approximately 26 was estimated.

There appears, as in *Ledebouria*, to be little significance in chromosome numbers. No basic number for the genus is suggested and it does not seem likely that chromosome numbers would be any more relevant to the separation of taxa than in *Ledebouria*. The occurrence of abnormalities in meiotic divisions, as have been found in *Ledebouria* (Jessop, ined.), may indicate reproductive abnormalities and may be related to the difficulties in defining subgeneric taxa in this genus. The range in size of the chromosomes and the size of the largest are greater than in *Ledebouria* (Jessop, ined.), as *Ledebouria* meiotic chromosomes rarely exceed $5\text{--}6 \mu\text{m}$.

CONCLUSIONS

On the basis of the above information, it is clear that *Drimiopsis* (sensu stricto) is very close to *Ledebouria*. Although many aspects of *Resnova* have not been investigated, it is considered that there is no character on which it can be separated from *Drimiopsis*. It is, therefore, proposed that *Drimiopsis* and *Resnova* be combined under the older name—*Drimiopsis*—and that this genus be placed near *Ledebouria*.

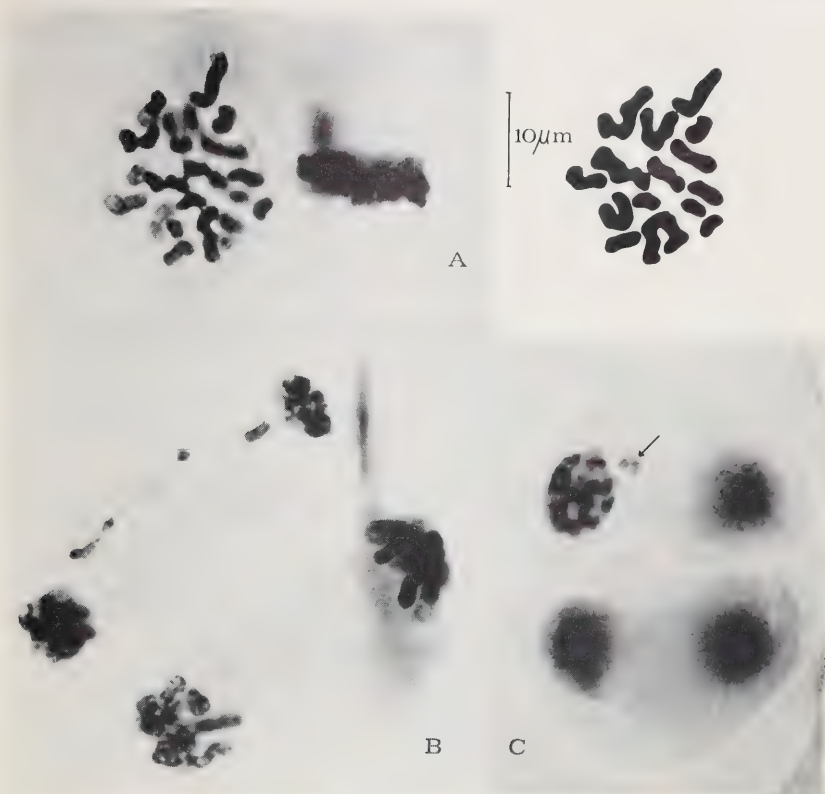


FIG. 3.
Meiotic chromosomes of *Drimiopsis maculata* (Strey 9031).
A. Metaphase II. B. Anaphase II showing laggards.
C. Telophase II showing micronucleus—arrowed.

KEY TO THE GENERA

Because of the changes made in the generic definitions in both this paper and the previous one (Jessop, 1970), it is considered desirable to publish a revision of the relevant sections of Phillip's (1951) key.

Phillips includes most of the bulbous Liliaceae under his lead 27. Most of the key following on from this key has been left unaltered, but a few errors are corrected. The numbers used for the leads in this key replace those similarly numbered by Phillips.

- | | | |
|-----|---|----|
| 28. | Filaments connate at the base | 29 |
| | Filaments free | 36 |

29. Flowers arcuate; bulb scales with fibrous apices 47. *Pseudogaltonia* Kuntze
 Flowers straight; bulb scales rarely with fibrous apices 30
30. Perianth segments free or, if fused, not forming a distinct tube 31
 Perianth segments fused to form a distinct tube 32
31. Perianth ascending; placentation of ovules basal 45. *Drimiopsis* Lindl.
 Perianth spreading; placentation of ovules axile 42. *Scilla* L.
32. Inflorescence a corymb; stamens in two rows; leaves surrounded by a membranous
 tubular sheath protruding from within the fleshy scales of the bulb 33
 Inflorescence a lax raceme, sometimes spicate or head-like; stamens in one row;
 leaves surrounded by the fleshy scales of the bulb only 34
33. Inflorescence with not more than four flowers; leaves less than 4 mm broad 46. *Hyacinthus* L.
 Inflorescence with more than four flowers; leaves usually more than 4 mm broad 50. *Polyxena* Kunth.
34. Perianth-segments longer than the tube; inflorescence a dense subsapicate raceme 52. *Whiteheadia* Harv.
 Perianth-segments shorter than the tube; inflorescence a lax raceme or a shortly
 peduncled raceme or sometimes the raceme head-like 35
35. Leaves linear 53. *Neopaterosonia* Schönl.
 Leaves elliptic or ovate 51. *Neobakera* Schltr.
36. Perianth-tube 0; stamens hypogynous or inserted at the base of the perianth-seg-
 ments 37
 Perianth-tube present; stamens inserted on the perianth-tube 42
37. Aerial parts consisting only of the much-branched inflorescence, which is green 19. *Schizobasis* Bak.
 Aerial parts consisting of leaves and simple, racemose inflorescences—which are
 not always present at the same time 38
38. Lowermost bracts spurred; seeds more or less flattened, with rather loose testa 39
 Lowermost bracts not spurred; seeds variable in shape, but not flattened and with
 a testa which fits firmly around the endosperm 40
39. Lower portion of filaments flattened; perianth-segments reflexed 34. *Thuranthos* C.H.Wr.
 Filaments not flattened or flattened above the lower portion; perianth segments
 more or less spreading 35. *Urginea* Steinh.
40. Bulb scales tubular at least at the base; leaves more or less uniformly green;
 ovary with more than two ovules per chamber 44. *Ornithogalum* L.
 Bulb scales imbricate; leaves frequently spotted or striped; ovary with two ovules
 per chamber 41
41. Perianth-segments more or less ascending; ovary oblong, sessile; leaves often
 petiolate; bulb scales all fleshy 45. *Drimiopsis* Lindl.
 Perianth-segments usually spreading or reflexed from near the middle; ovary
 conical, stipitate; leaves rarely petiolate; outer bulb scales usually mem-
 branous 45a. *Ledebouria* Roth
42. Inflorescence of one or two flowers 41. *Litanthus* Harv.
 Inflorescence a raceme, more rarely a spike 43
43. Perianth-segments distinctly dissimilar 44
 Perianth-segments similar, more rarely slightly dissimilar 45
44. Perianth deciduous; the outer segments usually longer than the inner 40. *Dipcadi* Medik.
 Perianth persistent; the inner segments usually longer than the outer 49. *Lachenalia* Jacq.
45. Ovary with two ovules in each chamber 48. *Veltheimia* Gleditsch
 Ovary with few to many ovules in each chamber 46
46. Anthers connivent 39. *Rhadamanthus* Salisb.
 Anthers not connivent 46a

- 46a. An inconspicuous plant with narrow terete leaves 35. *Urginea* Steinh.
 More or less robust plants; leaves not narrow and terete 46b
- 46b. Stamens inserted below the perianth-throat 37. *Galtonia* Decne.
 Stamens inserted in the perianth-throat 38. *Drimia* Jacq.

DRIMIOPSIS LINDL.

Paxton's Flower Garden 2: 73 (1851-2)

Resnova V.d. Merwe in Tydskr. Wetensk. Kuns N.R. 6: 41 46 (1946). Type species; not indicated.

Bulbs present, lacking papery outer scales. *Leaves* all basal, sometimes petiolate, generally with spots or patches of a different shade of green from the rest of the lamina. *Inflorescence* suberect, originating from an axillary bud, always unbranched. *Bracts* vestigial, not spurred. *Perianth segments* similar or almost so, ascending, sometimes with the apices incurved and cucullate, white, green, pink or purple, sometimes with a purplish or brown longitudinal marking. *Filaments* free of one another or very shortly connate, epipetalous. *Ovary* oblong, sessile, with two ovules per locule. *Ovules* basal.

Type: *D. maculata* Lindl.

Distribution: Eastern Cape through Natal and the Transvaal into tropical Africa.

KEY TO SPECIES OF DRIMIOPSIS IN SOUTH AFRICA

Apices of perianth segments erect-spreading. Flowers usually more than 5 mm long.

Flowers pink to purple, not conspicuously striped, 10 mm or more long. Transkei to Underberg and Pietermaritzburg 1. *lachenalioides*

Flowers striped, often partly pink, 9 mm or less long. To the east and north of Durban, with a few records from the eastern Cape as far west as Bedford and East London 2. *maxima*

Apices of perianth segments incurved to cucullate. Flowers usually less than 5 mm long.

Flowers usually more than 4 mm long, apparently always green, often white in the bud. Leaves cordate at the base 4. *maculata*

Flowers usually less than 3 mm long, often with pink or brown markings. Leaves usually cuneate, less often cordate, at the base.

Flowers greenish, white, or if purplish then the leaves with cuneate bases 3. *burkei*

Flowers purple. Leaves usually cordate at the base 5. *atropurpurea*

1. *Drimiopsis lachenalioides* (Bak.) Jess., comb. nov.

Scilla lachenalioides Bak. in Fl. Cap. 6: 482 (1897). Type: "Transkei", Hallack; "Bazeia Mountain", Baur 549 (SAM! PRE, photo.); "Griqualand East", Maloine, near Clydesdale Tyson 2878 (BOL!; SAM! PRE, photo.).

Resnova lachenalioides (Bak.) V.d.Merwe in Tydskr. Wetensk. Kuns 6: 46 (1946).

Bulb 30—40 [—80] mm long. *Leaves* 2—4, subpetiolate, glabrous to pubescent, [70—] 100—200 [—250] mm long, [12—] 25—40 mm broad. *Inflorescence* generally a little longer than the leaves. *Pedicels* 1—3 mm long. *Flowers* pink to purple. *Perianth segments* ascending with erect-spreading, minutely cucullate, apices, [9—] 10—12 [—18] mm long.

Recorded between Umtata and Pietermaritzburg. A single record from Zululand (2728 (Frankfort): Hlobane, *Johnstone* 574 (NH)) may be better placed under *D. maxima*. Occurs in grassveld and possibly forest.

Specimens linking this species with *D. maxima* do occur (e.g. 2832 (Mtubatuba): Hluhluwe Game Reserve, *Ward* 3281; PRE & NH, which has been placed in *D. maxima*). Size and markings of perianth is used, somewhat artificially, to separate these species. Distribution also provides a useful feature. For illustration see Flower. Pl. S. Afr. **21**: t.824 (1941).

Selected specimens:

NATAL—2929 (Underberg): Giants Castle Game Reserve, *Trauseld* 877 (PRE); flats near Bulwer, *Lansdell* s.n. sub NH 34265 (NH). 2930 (Pietermaritzburg): Pietermaritzburg district, *Mitchell* 13 (PRE). 3030 (Port Shepstone): near Sezela, *Reynolds* s.n. (PRE). CAPE—73029 (Kokstad): "Ingeni", Mount Ayliff, *Brownlee* s.n. (PRE). 3128 (Umtata): Bazija Forest Station, *Killick & Marais* 2063 (PRE).

2. *Drimiopsis maxima* Bak. in Fl. Cap. 6: 474 (1897).

Type: Natal, near Botha's, *Wood* 4773 (K, holo.!; NH!, PRE, photo.!).

Drimiopsis saundersiae Bak. in Fl. Cap. 6: 474 (1897). *Type*: "Natal, Itafamasi", *Wood* 774 (K, lecto.!), 938 (K, iso.!), without precise locality, *Saunders* s.n. (K!).

Scilla humifusa Bak. in Gard. Chron. 15: 626 (1881). *Type*: ex cult. hort. Bull (K, holo.!).

Drimiopsis humifusa (Bak.) Bak. in Fl. Cap. 6: 474 (1897).

Scilla schlechteri Bak. in Bull. Herb. Boiss. 2: 1002 (1904). *Type*: Natal, Krantzklouf, *Schlechter* 3174 (K, holo, BOL, drawing!; BOL!, PRE, photo.!, GRA!, PRE, photo.!, PRE!; Z!).

Resnova schlechteri (Bak.) V. d. Merwe in Tydskr. Wetensk. Kuns. 6: 46 (1946).

Resnova transvaalensis V.d.Merwe in Tydskr. Wetensk. Kuns. 6: 46 (1946). *Type*: Transvaal, Piet Retief district, Amsterdam, *Van der Merwe* s.n. sub PRE 26432 (PRE, holo.!).

Resnova pilosa V.d.Merwe in Tydskr. Wetensk. Kuns. 6: 46 (1946). *Type*: Natal, Vryheid, *Van der Merwe* 2643 (PRE, holo.!).

Resnova minor V.d.Merwe in Tydskr. Wetensk. Kuns. 6: 46 (1946). *Type*: Natal, Paulpietersburg, *Van der Merwe* 2780 (PRE, holo.!).

Resnova maxima V.d.Merwe in Tydskr. Wetensk. Kuns. 6: 46 (1946). *Type*: "In collibus prope Magut", *Van der Merwe* 2710 (PRE!). The specimen of the type number annotated as the type in the National Herbarium, Pretoria, are labelled "Dwarsberg (Louwsberg)".

Bulb 30—50 [—100] mm long. *Leaves* 2—4 [—8], subpetiolate or narrowing gradually to the base, the margins sometimes undulate, glabrous to pubescent, [60—] 80—150 [—300] mm long, [13—] 30—50 [—70] mm broad. *Inflorescence* about the same length as the leaves to several times as long. *Pedicels* 1—2 [—3] mm long. *Flowers* striped, pink, white, green or brown. *Perianth segments* ascending, with erect-spreading, minutely cucullate apices, [5—] 6—8 [—9] mm long.

Widespread in Natal as far west as Hillcrest, Swaziland, and the south-eastern Transvaal. Isolated specimens have also been collected in the eastern Cape. Grows in grassveld, among rocks, in shallow pans and in forest.

Specimens intermediate between this species and *D. burkei* have been collected. It is separated by the present author from *D. burkei* on rather artificial criteria. It is also not always readily separable from *D. lachenalioides*. For illustration see Flower. Pl. S. Afr. **21**: t.823 (1941).

Selected specimens:

TRANSSVAAL—2531 (Komatipoort): Saddleback Range, *Van der Merwe* 1821 (PRE). 2730 (Vryheid): Mooihoek, *Devenish* 958 (PRE).

SWAZILAND—2631 (Mbabane): Usutu Mission, *Compton* 27122 (PRE).

NATAL—2730 (Vryheid): Klipspruit, Utrecht district, *Breyer* s.n. sub Tvl Museum 16957 (PRE). 2731 (Louwsburg): Pongola Poort, *Ward* 3806 (NH). 2832 (Mtubatuba): Hluhluwe Game Reserve, *Ward* 3281 (NH, PRE). 2930 (Pietermaritzburg): Bothas Hill, *Wood* 8652 (NH). 2931 (Stanger): Gingindhlovu, *Gerstner* s.n. (NH). 3030 (Port Shepstone): Dumisa, *Rudatis* 1703 (G).

CAPE—3226 (Fort Beaufort): Bedford above Turpin Dam, *Acocks* 16269 (PRE). ?3327 (Peddie): East London near Elizabeth Island, *Galpin* 5772 (PRE).

3. *Drimiopsis burkei* Bak. in Saund. Ref. Bot. 3, app. 17 (1870).

Type: Transvaal, Aapies River, *Burke* s.n. (K, holo.).

Drimiopsis woodii Bak. in Fl. Cap. 6: 473 (1897). *Type*: Natal, Inanda, *Wood* 656 (NH!, PRE, photo.); BOL!; SAM!; Natal, Klip River, *Sutherland* s.n. (K!).

Drimiopsis crenata V.d.Merwe in Flower. Pl. Afr. 25: t.975 (1946). *Type*: Transvaal, Rooiberg, *Van der Merwe* 2805 (PRE, holo.).

Bulb [20—] 30—60 [—90] mm long. Leaves usually 2—4, narrowing towards the base or sometimes subpetiolate, often with finely crenate or undulate margins, glabrous or rarely sparsely pubescent, [20—] 40—100 [—150] mm long, [10—] 20—40 [—50] mm broad. *Inflorescence* about the same length as the leaves to several times as long. *Pedicels* 1—2 mm long. *Flowers* green, white or pale pink. *Perianth segments* ascending with incurved, cucullate apices, usually 2—3 mm long.

Widespread in a wide range of habitats in the Transvaal and present in Botswana and Natal.

Some plants, especially those from damper areas and the Transvaal lowveld (for example the types of *D. woodii*), have longer leaves than those from the highveld of the Transvaal. These plants are often close to *D. maculata* in leaf form, but the leaves tend to be more cuneate. Their inclusion under *D. burkei* is principally on the basis of their smaller flowers. For illustration of the typical form see Flower. Pl. Afr. 25: t.975 (1946), and for the longer leafed form see Flower. Pl. Afr. 25: t.988 (1946).

Selected specimens:

BOTSWANA—2426 (Mochudi): near Derdepoort, *Codd* 8855 (PRE).

TRANSSVAAL—2330 (Tzaneen): Merensky Dam, Letaba, *Scheepers* 770 (PRE). ?2428 (Nylstroom): Pyramid Estates, Waterberg, *Galpin* 9160 (PRE). 2528 (Pretoria): Onderstepoort, *Smith* 6286 (PRE).

NATAL—2831 (Eshowe): Campus of the University of Zululand, *Venter* 327 (NH); Mtunzini, *Lawn* 1717 (NH). 2930 (Pietermaritzburg): Oribi, *Lawson* 640 (NH).

4. *Drimiopsis maculata* Lindl. in Paxt. Flow. Gard 2: 73, f.172 (1851-2).

Type: "Cape of Good Hope, introduced by the Horticultural Society", without collector, in Herb. J. Lindley (CGE, ?holo., K, photo.).

Drimiopsis minor Bak. in Saund. Ref. Bot. 3: t.192 (1870). *Type*: Saund. Ref. Bot. 3: t.192 "Natal, *Cooper*" (1870).

Bulb [15—] 25—40 [—50] mm long. Leaves usually 2—4, usually cordate above the distinctly petiole-like base, erect to spreading, glabrous, [50—] 100—200

[—300] mm long, [20—] 35—70 [—80] mm broad. *Inflorescence* usually much longer than the leaves. *Pedicels* 1—2 mm long. *Flowers* white or green. *Perianth segments* ascending with incurved, cucullate apices, usually 4—5 mm long.

Occurs mainly in shaded places in dampish areas of the eastern Cape, Natal, Swaziland and occasionally recorded from the Transvaal, especially in the east.

The specimen cited as the type of *D. maculata* is a very good match of the figure in Paxton's "Flower Garden", but there is no indication on the herbarium sheet that this was made from the same material.

The type of *D. woodii* and other material similar to it have been collected over a wide part of the range of *D. maculata* as recognised by the present author. These specimens have narrower leaves, lacking the cordate base, and flowers only about 3 mm long. They are, therefore, to some extent intermediate between this and the previous species, but have been placed in *D. burkei* on the basis of their smaller flowers and cuneate leaves. For illustration of *D. maculata* see Flower. Pl. S. Afr. **24**: t.957 (1944).

Selected specimens:

TRANSVAAL—2430 (Pilgrim's Rest): 4 miles north of Branddraai, Lydenburg district, *Codd & De Winter* 3261 (PRE).

SWAZILAND—2631 (Mbabane): Red Tiger Ranch, Manzini, *Compton* 32432 (NBG, PRE).

NATAL—2632 (Bella Vista); Ndumo Game Reserve, *Tinley & Ward* 35 (NH, PRE). 2931 (Stanger); Berea, *Wood* s.n. (GRA, NH); Durban, *Rabinowitz* s.n. sub BOL 24586 (GRA); Glen Mill, Lower Tugela, *Moll* 2289 (PRE).

CAPE—3129 (Port St Johns): Third Beach, Port St Johns, *Strey* 4322 (PRE). 3327 (Piedie); East London, *Rattray* 576 (GRA), 7881 (PRE).

5. *Drimiopsis atropurpurea* N.E.Br. in Kew Bull. 1921: 299 (1921).

Type: Transvaal, Barberton, Roses Creek, *Thorncroft* 1083 (BOL!, GRA!, PRE!).

Drimiopsis purpurea V.d.Merwe in Flower. Pl. Afr. **25**: t.975 (1946). *Type*: Natal, Paulpietersburg district near Pivaan, *Van der Merwe* 2781 (PRE, holo.!).

In most features this species is similar to *D. maculata*. However, it differs in the following respects: *Leaves* pubescent. *Flowers* purple, approximately 2—4 mm long.

Little is known about its distribution or habitat. It has been recorded from northern Natal and the south-eastern Transvaal.

Selected specimens:

TRANSVAAL—2530 (Lydenburg): Waterval Boven, *Rogers* 18508 (PRE); Belfast district, Schoemans Kloof, *Young* A297 (PRE).

NATAL—2730 (Vryheid): Paulpietersburg district near Luneberg, *Van der Merwe* 2779 (PRE).

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